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–ED ALLOMORPHS AND LINGUISTIC KNOWLEDGE OF MALAY SPEAKERS OF ENGLISH: A DESCRIPTIVE AND CORRELATIONAL STUDY

Maskanah Mohammad Lotfie[1]
Maimunah Abdul Kadir[2]
Zahariah Pilus[3]
International Islamic University Malaysia
maskanah@iium.edu.my[1]; maimunah@iium.edu.my[2]; zahariahp@iium.edu.my[3]

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Abstract

Malay is a language from the Austronesian family and unlike the Indo-European-originated English, it does not generally have inflectional temporal markers. Investigating this from a cross-linguistics - influence perspective, differences between the languages could mean difficulties for Malay speakers to acquire features of English. The objectives of this study are to investigate Malay speakers' pronunciation of the English language *–ed* allomorphs – [d], [t] and [ɪd]/[əd] – and the relationship between the morphophonological forms and two types of linguistic knowledge, one of which is implicit while the other is explicit. Data were collated from fifty participants who are social science undergraduates and English majors who speak English as a second language. Four instruments were used to gauge the respondents' verbal use of *–ed* allomorphs as well as their implicit and explicit knowledge of the allomorphs. Results indicate that the students' verbal usage of the target items either lacks approximation to Standard English pronunciation or is largely dropped altogether. Results also suggest a moderate relationship between implicit and explicit knowledge of the allomorphs and their verbal production by Malay speakers of English. The finding illuminates acquisition problem of English language speakers whose mother tongue does not share similar inflectional markers. Pedagogical solutions can help learners of the English language to approximate Standard English and in the long run, enhance effective communication and increase chances of employability.

Keywords: linguistic knowledge; *-ed* allomorphs; past-time inflections; Malay speakers of English; employability

The English language, after more than 1,500 years of rapidly expansive existence, has evolved into a significantly less synthetic language (van Gelderen, 2006). Compared to its earliest form, Old English, Present-Day English is not as highly inflected (Lieber, 2016). The usage of English has great importance in a country like Malaysia even though the majority of its population speaks Malay as the first language. Although there is a vast difference between the temporal indicators of English and Malay, the study by Lotfie, Salleh, and Kadir (2015) indicates that Malay Malaysian English as a second language (ESL) users could successfully produce the written past-time indicator *–ed*. Usage of *–ed* allomorphs in their speech or verbal production, however, has not been investigated and the temporal indicator differences between the languages could be one of the factors that lead to the difficulty in acquiring the inflectional forms. Thus, this study examines Malay speakers' verbal production of the forms [d], [t] and [ɪd]/[əd], investigates the users' level of explicit and explicit knowledge of the *–ed* allomorphs and ultimately attempts to identify correlations between linguistic knowledge types and verbal output of the *–ed* allomorphs.

This paper will proceed with sections on implicit and explicit linguistic knowledge, past-time inflection *-ed* and its allomorphs as well as relevant studies. They are followed by the study's method, findings and discussion, and ended with conclusion.

Implicit and explicit linguistic knowledge

Implicit linguistic knowledge refers to unconscious and non-verbalised knowledge employed by language users during spontaneous comprehension or production processes. Bowles (2011) describes it as intuitive, procedural, automatic, variable in a limited and systematic way, and available in fluent, spontaneous language use. Similarly, Akakura (2012) states that implicit knowledge refers to knowledge of a language that may be accessed instantaneously during natural comprehension or production. Distinctly at the other end of the continuum, explicit knowledge is described by Bowles as conscious, declarative, highly variable, only accessible through controlled processing and is potentially verbalizable. It refers to knowledge that

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is analysed, abstract, and explanatory and it involves awareness (Ellis, 2005) and the learner of a language, therefore, has the ability to correct, describe and explain what he knows.

Explicit-implicit knowledge operationalization has been illuminated by Ellis (2005, 2009). Three notions are relevant to the current study in terms of theoretical underpinning and instrument design. The first, available time, concerns whether learners are pressured to perform a task or whether they can plan their responses carefully. Operationally, this requires distinguishing tasks that make significant demands on learners' short-term memories and those that lie comfortably within their second language (L2) processing capacity. Next, is systematicity (Ellis, 2005) which requires examining whether learners are consistent or varied in responding to a task. Learners should be more consistent in responding to a task that taps implicit knowledge than one that elicits explicit knowledge. The third, metalanguage, focuses on the relationship between metalanguage and explicit knowledge. Learners' knowledge of metalingual terms is related to their explicit or analysed knowledge but not to their implicit knowledge.

Past-time inflection *-ed* and its allomorphs

The past is indicated in English regular verbs using the affix *–ed* in a process that does not affect the stem (Tyler, Mornay-Davies, Longworth, & Marslen-Wilson, 2002). This past tense marker's allomorphic choices are realized depending on the final morpheme of a verb. Allomorph is defined as any of the different forms of a morpheme (Richards & Schmidt, 2002) or specifically, they are variant pronunciations of a morpheme, in which the choice is determined by phonological, grammatical or lexical contexts (Carstairs-McCarthy, 2002). The additive *–ed* is represented by three allomorphic variants - [d], [t] and [ɪd]/[əd] - that are phonologically determined by preceding sounds (Carstairs-McCarthy, 2002). That native speakers would insert either the epenthetic vowels [ɪ] or [ə] when the last consonant of the verb ends with a [t] or a [d] is confirmed in a study by LeBlanc and Koffi (2012). The allomorphic features of *–ed* inflection are summarized in Table 1.

Table 1. The English language *-ed* allomorphs

No.	Preceding sounds	Allomorphs	Examples
1	[t] or [d]	[ɪd]/ [əd]	*flooded, educated, attended* (syllabic forms)
2	Voiceless – produced with no vibration of the vocal folds in the larynx	[t]	*slapped, hooked, announced* (non-syllabic)
3	A vowel or a voiced consonant	[d]	*prayed, tagged* (non-syllabic)

Table 1 shows the sounds preceding the allomorphs, the examples and that verbs with [ɪd]/[əd] have syllabic forms while [t] and [d] are non-syllabic. The syllabic ones are considered more perceptually salient (Solt et al., 2004).

High level of linguistic item salience may help learners' acquisition of a form because of its greater noticeability. Kerswill and Williams (2002) define salience as the property of a linguistic feature that makes it perceptually and cognitively prominent. A particular linguistic variable is salient if speakers are aware of it. As stated by Goldschneider and DeKeyser (2001), perceptual salience is the ease of hearing or perceiving a given linguistic feature and it correlates with such aspects of the input as amount of phonetic substance and lexical stress level. The Perceptual Salience Hypothesis predicts that an L2 learner will face fewer difficulties in perceiving and producing a syllabic grammatical suffix than a non-syllabic one because a syllable is more perceptually salient than a consonant (Klein et al., 2003). Since the English past-time *-ed* has three allomorphs which are [ɪd]/[əd], [d] and [t], [ɪd]/[əd] should hypothetically be the easiest of the three allomorphs for L2 learners to perceive and produce because of the syllabicity of [ɪd]/ [əd] as in *waited* compared to [d] as in *closed* and [t] as in *walked* which are non-syllabic.

In contrast, reference to the past in Malay does not involve inflections. In fact, Malay, unlike English, is considered as a language where inflectional marking by way of prefixes or suffixes does not commonly exist for verbs (Deterding & Poedjosoedarmo, 2001; Prentice, 1987; Zhang, Chin & Li, 2017). The forms parallel to the English language's regular simple past tense are conveyed in standard Malay using aspectual auxiliary words (Omar, 2000; Karim, 1995). These forms include *sudah* and *telah*, both often translated as the past form of the auxiliary 'have' i.e. 'had', and made clearer with specific temporal references like *pagi tadi* (this morning), *bulan lepas* (last month) and etcetera. Thus the Malay past-time reference is devoid of any parallel forms of *–ed* and its allomorphs.

Empirical studies have been carried out on English past-time forms - for example Amaro, Campos-Dinstrans and Rothman (in press) and English past-time *-ed* and its allomorphs such as those by Dávila (2005), Dwight (2012), Klein et al. (2003), LeBlanc and Koffi (2012) and Solt et al. (2004). They are primarily investigations on the accuracy and difficulty in producing and perceiving

the forms. Amaro et al. (in press) studied Mandarin, Spanish and Japanese L2 speakers of English in supplying oral past tense morphemes. Japanese and Spanish speakers have similar syntactic features in their first language whereby the past tense is inflectionally indicated. Mandarin, however, like Malay, does not have similar temporal indicators. The study found that all three groups of L2 speakers of English did not perform well compared to the native speakers. This shows that similarities in L1 structure do not influence L2 oral production.

Klein et al. (2003) examined the degree to which the lexical aspect of a verb and the salience of its affix contribute to *-ed* variability in L2 performance. They also investigated the possible interaction between the semantics of a verb and the phonology of its affix. Participants consisting of sixty-six ESL learners and nineteen native speakers (n=85) were given a perception task which involved producing written responses. Results show that L2 learners' overall performance was considerably better on verbs requiring the syllabic allomorph [ɪd] than those requiring the non-syllabic allomorph [d], supporting the Perceptual Salience Hypothesis.

The impact of phonological factors on L2 learners' ability to correctly perceive as well as produce the past tense morpheme *–ed* was investigated by Solt et al. (2004). This study involved sixty-eight adults of various first language backgrounds who were divided into high and low proficiency levels. A control group of nineteen native speakers of English was also tested. The participants completed two tasks; the perception and the production tasks. Findings reveal that the L2 learners of English of both proficiency levels did not perceive the *-ed* morpheme in a target-like manner. They were able to perceive the syllabic allomorph [ɪd] quite accurately but were significantly less able to perceive the non-syllabic [t] and [d]. The high proficiency group performed significantly below the native speakers in their perception of the regular past tense morpheme. However, on the written, contextualized task that drew on grammatical knowledge as well as perception, the more advanced learners used the cues to produce the morpheme nearly as accurately as the native speakers.

Dávila (2005) examined whether the accuracy of pronunciation of the *-ed* morpheme allomorphs improves with increased level of English proficiency and whether Spanish phonotactic constraints influence participants' development trends. Forty-eight Spanish participants in this study belonged to three English proficiency levels: high beginners, intermediate and high intermediate. The instrument listed forty-four isolated regular past tense verbs to measure the three allomorphs of *-ed*. Results reveal that proficiency levels affected pronunciation differently. The more advanced EFL Spanish learners had a significantly higher level of accuracy on the production of two of the three allomorphs, /t/ and /d/ with their error rate on these two allomorphs as low as 9% and 8%, respectively. For /əd/ or /ɪd/ allomorph on the other hand, no significant differences were found among the three proficiency levels. It was also noted that the /əd/ or /ɪd/ allomorph showed the lowest rate of errors overall.

Dwight (2012) investigated two factors that might affect the acquisition of the regular past tense *–ed*, namely learner readiness and perceptual salience of allomorphs, either with greater sonority (e.g. /d/ in *learned*) or with lower sonority (e.g. /t/ in *talked*). Thirty-five 11 to 12-year-old students in an intensive ESL programme participated in the study where four instruments were employed. Findings show that all learners' perception of simple past inflectional forms improved over time, with the more salient allomorph /d/ being perceived more accurately than /t/. This supports the hypothesis that salience plays a role in acquisition not only in the order of grammatical morphemes in general, but also within allomorphs of the same morpheme. Results regarding readiness show that ready learners did not demonstrate greater rates of acquisition in perception or in production compared to unready learners, suggesting that readiness might not be applicable to the acquisition of regular past tense form.

LeBlanc and Koffi (2012), as mentioned earlier, conducted an acoustic phonetic study to test the morphophonological claim that the past-time suffix *-ed* has three allomorphs. Two native speakers of General American English were given a set of words to be pronounced: *popped*, *bobbed*, *toted*, *duded*, *cocked* and *gagged*. Each token was repeated three times. The data were transcribed phonetically and analysed using an acoustic analysis software. Findings show that both participants pronounced *-ed* according to commonly stated morphophonological rules, namely as [d], [əd] and [t]. However, there were acoustic phonetic differences between Subjects 1 and 2. Both subjects inserted different vowels after /t/ and /d/. Subject 1 inserted an [ɪ] as in [totɪd] whereas Subject 2 preferred a schwa [ə] as in [totəd].

The findings of the abovementioned studies on how *–ed* allomorphs were perceived, produced and pronounced largely indicate support for Perceptual Salience Hypothesis. The hypothesis predicts that a second language learner will face difficulties in perceiving and producing a non-syllabic grammatical suffix more than a syllabic one because a syllable is more perceptually salient than a consonant (Klein et al., 2003). An investigation on Malay speakers of English can help understand one aspect of English, i.e. the *–ed* allomorphs, as spoken by the Malays. It can also be useful in devising effective instructional materials and techniques for Malay learners and speakers of English. A recent study by Lotfie et al. (2015) investigated the written

form of past time inflections which include the *–ed* marker. The current study concentrates on oral production of the forms. It is significant to study *–ed* allomorphs as most studies on oral production in Malaysia focus mainly on individual vowels and consonants (Azirah & Tan, 2012; Baskaran, 2004; Don, 1997; Pillai, Don, Knowles, & Tang, 2010; Pilus, 2002) and not on morphophonological changes at the stem-suffix boundary.

METHOD

This study is an examination on explicit knowledge, implicit knowledge and verbal usage of *–ed* allomorphs. It is also a correlational investigation of the two types of linguistic knowledge and their usage. Data collection took place in a higher education institution where English is the medium of instruction. There were approximately two thousand students in the social science faculty and from that number, Malay ESL undergraduates (*n*=50) consisting of twenty-five social science students and twenty-five English majors participated in this study through purposive sampling.

Instruments

Four instruments were used in this study and much like Rogers, Révész, and Rebuchet (2016) who utilised a grammaticality judgment test in investigating implicit-explicit knowledge of inflectional morphology, the first, the Allomorph Judgment Test (AJT), measures ESL users' implicit knowledge of past-time inflection *–ed* usage. It consists of twenty items that are based on the allomorphs and their preceding sounds. Students listened to the pronunciation of selected words and stated whether each item was correctly or incorrectly pronounced. A correct or an accurate item is one where the *–ed* allomorph matches the sound of the verb preceding it. Items were not repeated and limited time was allowed to listen and write the answers. This is in reference to the constructs of linguistic knowledge proposed by Ellis (2005). The reliability index for this test is .9.

Metalingual Judgment Test (MJT) measures users' explicit knowledge of past-time *–ed* allomorph usage. It consists of ten items that are also based on the allomorphs and their preceding sounds. Each item consists of erroneous pronunciation of *–ed.* Participants attempted two tasks; correcting the pronunciation and writing the explanation for the errors. Items were repeated and ample time was given to complete the task so that the participants could access their metalinguistic knowledge of the target items and respond by mentioning the rules. This test has a high reliability index of .8.

In Verbal Production Test (VPT), students talked about "My Childhood". The piloted topic was chosen because it naturally elicited the use of simple past tense. Each student's verbalisation was recorded for 7 minutes. Data were transcribed and *–ed* usage were highlighted to assist raters in listening to the target items. Two raters evaluated each user's verbal production from 0 to 10, very poor to very good, using a scoring rubric.

The fourth test, Itemized Verbal Test (IVT), required students to pronounce twenty items consisting of variants of *–ed* allomorphs. The reliability index for this test is .9. All tests were scored by two raters whose inter-rater reliability index is .7. The summary of the research design is shown in Table 2.

Table 2. Summary of research design

No.	Research Questions (RQ)	Data Collection	Data Analysis
1	Do ESL users have implicit knowledge of *–ed* allomorphs?	Allomorph Judgment Test (AJT)	Descriptive – frequencies, percentages, means
2	Do ESL users have explicit knowledge of *–ed* allomorphs?	Metalingual Judgment Test (MJT)	
3	Does students' verbal usage of *–ed* reflect Standard English allomorph variants?	1. Verbal Production Test (VPT) 2. Itemized Verbal Test (IVT)	
4	Is there a relationship between implicit knowledge and the pronunciation of *–ed* allomorphs?	AJT and VPT & IVT	Spearman's *rho*
5	Is there a relationship between explicit knowledge and the pronunciation of *–ed* allomorphs?	MJT and VPT & IVT	

RESULTS AND DISCUSSION

In answering whether Malay ESL users have implicit knowledge of *–ed* allomorphs, responses to the 20-itemed Allomorph Judgment Test (AJT) were analysed. Table 3 shows the scores for their implicit knowledge.

Results indicate that the overall mean score for implicit knowledge (*M*=13, *SD=2.06*) is moderately high. The users were able, to a certain extent, state whether inflected words were correctly or incorrectly pronounced. Further analysis of the data shows that English majors scored slightly

higher (*M*=13.72, *SD*=2.01) than Social Science students (*M*=12.28, *SD*=1.88).

To identify ESL users' explicit knowledge of *–ed* allomorphs, data from Metalingual Judgment Test (MJT) were analysed and presented in Table 4.

The overall mean score for implicit knowledge (*M*=1.14, *SD*=1.98) is low. The users were generally unsuccessful in explaining erroneous inflected forms. Further analysis of the data shows that English majors scored considerably higher (*M*=1.92, *SD*=2.38) than Social Science students (*M*=0.36, *SD*=1.04).

Table 3. ESL users' implicit knowledge of *–ed* allomorphs

Programme	Mean	*N*	Std. Deviation
Social Science	12.28	25	1.88
English	13.72	25	2.01
Total	13.00	50	2.06

Table 4. ESL user's explicit knowledge of *–ed* allomorphs

Programme	Mean	*N*	Std. Deviation
Social Science	.36	25	1.036
English	1.92	25	2.383
Total	1.14	50	1.982

Two tests, Verbal Production Test (VPT) and Itemized Verbal Test (IVT), were administered in answering RQ3 - Does students' verbal usage of *–ed* reflect Standard English allomorph variants? Table 5 presents the results for VPT.

Table 5. ESL users' verbal usage of *–ed* allomorphs

Programme	Mean	*N*	Std. Deviation
Social Science	2.080	25	2.3965
English	2.490	25	2.1451
Total	2.285	50	2.2605

The overall mean score for VPT (*M*=2.29, *SD*=2.26) is very poor. The Malay ESL users were either using allomorph /əd/ for verbs ending in *d* or *t*, /d/ for other forms or muting the allomorphs altogether e.g. /sɛlɪbreɪtəd/, /tɔ:kd/ and /kənˈsɜ:n/ respectively. English majors (*M*=2.49, *SD*=2.15) scored poorly though somewhat higher than the Social Science students whose score at *M*=2.08 (*SD*=2.40) is like the overall score - very poor.

The result from verbal essays (VPT) is compared to the pronunciation of individual words. Table 6 shows the scores for IVT.

Table 6. ESL users' pronunciation of itemised words

Programme	Mean	*N*	Std. Deviation
Social Science	12.84	25	4.427
English	15.56	25	2.647
Total	14.20	50	3.862

The Malay English users' overall score for IVT (*M*=14.20, *SD*=3.86) is moderately high. The students were observed to be more successful in pronouncing allomorphs in isolation compared to those produced in the naturally elicited verbalised essays. Further analysis of the data shows that English majors scored considerably highly (*M*=15.56, *SD*=2.65) while Social Science students (*M*=12.84, *SD*=4.41) performed moderately well.

Even though there are differences between the two groups, Social Science ESL users and English majors, in mean scores in the four results presented above, none was statistically significant. As such, data from the two groups were collapsed for correlational analyses.

The next sections present the results of the relationship between linguistic knowledge and *–ed* allomorph pronunciation. In finding out whether there is a relationship between implicit knowledge and the pronunciation of *–ed* allomorphs, results for AJT and VPT and IVT were analysed using Spearman's *rho*.

Table 7 shows a significant correlation (ρ=.56, p<0.01) between implicit knowledge and the overall *–ed* allomorph pronunciation.

Specifically, as shown in Table 8, there is moderate correlation (ρ=.50, = p<0.01) between implicit knowledge and the verbal production of *–ed* allomorph.

Furthermore, as shown in Table 9, the correlation between implicit knowledge and the pronunciation of *–ed* allomorphs is further supported by the result from IVT, the itemised test (ρ=.6, p<0.01).

Spearman's *rho* was also run to answer RQ5 (Is there a relationship between explicit knowledge

and the pronunciation of *–ed* allomorphs?). Table 10 shows the correlation between MJT and the average of VPT and IVT.

The results show a significant correlation between explicit knowledge and the overall pronunciation of *–ed* allomorphs (ρ=.56, p<0.01).

Specifically, there is a moderate correlation between MJT and VPT (ρ=.43, p<0.01) as shown in Table 11.

Table 7. Correlation between students' implicit knowledge and overall verbal production of *–ed* allomorphs

		Allomorph Judgement Test	**Average of VPT and IVT**
Allomorph Judgement Test	Correlation Coefficient	1.000	.559**
	Sig. (2-tailed)	.	.000
	N	50	50
Average of VPT and IVT	Correlation Coefficient	.559**	1.000
	Sig. (2-tailed)	.000	.
	N	50	50

** Correlation is significant at the 0.01 level (2-tailed).

Table 8. Correlation between students' implicit knowledge and students' verbal production of *–ed* allomorphs

		Allomorph Judgement Test	**Verbal Production Test**
Allomorph Judgement Test	Correlation Coefficient	1.000	.497**
	Sig. (2-tailed)	.	.000
	N	50	50
Verbal Production Test	Correlation Coefficient	.497**	1.000
	Sig. (2-tailed)	.000	.
	N	50	50

** Correlation is significant at the 0.01 level (2-tailed).

Table 9. Correlation between students' implicit knowledge and itemised pronunciation of *–ed* allomorphs

		Allomorph Judgement Test	**Itemised Verbal Test**
Allomorph Judgement Test	Correlation Coefficient	1.000	.610**
	Sig. (2-tailed)	.	.000
	N	50	50
Itemised Verbal Test	Correlation Coefficient	.610**	1.000
	Sig. (2-tailed)	.000	.
	N	50	50

** Correlation is significant at the 0.01 level (2-tailed).

Table 10. Correlation between students' explicit knowledge and overall pronunciation of *–ed* allomorphs

		Metalingual Judgement Test	**Average of VPT and IVT**
Metalingual Judgement Test	Correlation Coefficient	1.000	.564**
	Sig. (2-tailed)	.	.000
	N	50	50
Average of VPT and IVT	Correlation Coefficient	.564**	1.000
	Sig. (2-tailed)	.000	.
	N	50	50

** Correlation is significant at the 0.01 level (2-tailed).

Table 11. Correlation between students' explicit knowledge and verbal production of *–ed* allomorphs

		Metalingual Judgement Test	**Verbal Production Test**
Metalingual Judgement Test	Correlation Coefficient	1.000	.431**
	Sig. (2-tailed)	.	.002
	N	50	50
Verbal Production Test	Correlation Coefficient	.431**	1.000
	Sig. (2-tailed)	.002	.
	N	50	50

** Correlation is significant at the 0.01 level (2-tailed).

Table 12 also illustrates the relationship between explicit knowledge and the pronunciation of *–ed* allomorphs where the correlation is moderate between MJT and IVT (ρ=.55, $p<0.01$).

The Malay ESL users of this study are found to have some implicit linguistic knowledge of the *–ed* allomorphs [d], [t] and [ɪd]. It can be said that to a certain extent, their knowledge of the allomorphs is automatized (Bowles, 2011). On the other hand, their explicit knowledge of the same forms is generally observed to be very low. The study provides evidence that when ESL users apply the past tense morphophonological forms, they may use them without much knowledge of how the items work metalingually. Nevertheless, much like Dávila (2005), the more advanced ESL users, i.e. the English majors of the current study, performed better than the Social Science group in terms of metalinguistic explanations and thus suggest that they do have, if somewhat limited in depth, explicit knowledge of the use of the allomorphs.

Table 12. Correlation between students' explicit knowledge and pronunciation of *–ed* allomorphs

		Metalingual Judgement Test	**Itemised Verbal Test**
Metalingual Judgement Test	Correlation Coefficient	1.000	.549**
	Sig. (2-tailed)	.	.000
	N	50	50
Itemised Verbal Test	Correlation Coefficient	.549**	1.000
	Sig. (2-tailed)	.000	.
	N	50	50

** Correlation is significant at the 0.01 level (2-tailed)

Similar to the study on past tense forms by Amaro et al. (in press) on Japanese, Mandarin and Spanish speakers of English, the Malay ESL users did not largely approximate the Standard English three *–ed* allomorphs in their oral production. Firstly, it is deduced from analysed data that forms preceded by [t] and [d] are pronounced /əd/, i.e. with a schwa and not [ɪd]. This can be seen as follows:

B19 /əˈdʒʌstəd/ and not /əˈdʒʌstɪd/
S6 /əˈdɒptəd/ and not /əˈdɒptɪd/
S1 /sɛlɪbreɪtəd/ and not /ˈsɛlɪbreɪtɪd/

Indeed, [əd] is a variant of the allomorph but this study provides evidence that the [ɪd] sound is foreign to Malay speakers of English.

It is also observed that the allomorph /d/ was utilised regardless whether *–ed* has voiceless, vowel or voiced preceding sounds. In other words, the [t] that should come after voiceless sounds was not largely utilised. The following extracts illustrate this point:

B3 /pushd/ instead of /pusht/
S5 /ræŋd/ instead of /ræŋt/

Just like the influence of the Indonesian language on Indonesian speakers of English in forming pastime inflectional forms (Widyastuti, 2015; Zhang & Widyastuti, 2010), these variations by the Malay speakers could be caused by first language interference because Malay is largely not an inflected language (Prentice, 1987; Deterding & Poedjosoedarmo, 2001; Zhang, Chin, & Li, 2017). Their absence in the native language renders the acquisition of the forms of English past time allomorphs challenging to the Malays. Interference could also be key to the preference for the schwa sound [ə]. Standard Malay orthographic "i" is present in numerous Malay words like the verbs *cubit* (pinch) and *tarik* (pull) but in each one of them and in various other words, the "i" has a schwa sound so the words are pronounced as /tʃʊbət/ and /tɑrək/. In other words, the schwa is a common sound to the Malays, making that sound naturally chosen for the *–ed* allomorph coming after /t/ and /d/.

Lack of approximation to the target forms can also be deduced from the numerous instances of dropped *–ed* allomorph. This can be seen in the following:

S6, B24 (and 17 other participants) /laɪk/ instead of /laɪkt/
S4, B20 (as well as 11 other participants) /ɑːsk/ instead of /ɑːskt/

This consistent recurring feature of dropping the allomorph [t] could be due to the nature of the inflectional markers; they are meant in the English language to transmit grammatical information of verbs but the meaning speakers attempt to convey can still be understood without them, assisted by the usage of adverbials and other temporal references. The following extracts further illustrate this point where "during childhood" and "standard 6" remove the need for *–ed* and its various allomorphic forms in [tendɪd], [pleɪd] and [pɑːˈtɪcipɑtɪd].

S8 During my childhood we **tend** to play together in the evening. We **play** rounders, we **play** uhh… *tuju kasut* and sports…
B7 …umm I still **participate** and when I'm standard 6…

This is similar to the nature of past-time references in Malay as observed by Karim (1995) and Omar (2000).

The participants, however, performed considerably better in pronouncing the inflections of isolated words. Much like the findings in Solt et al. (2004) and Dávila (2005), the more advanced users of English and in this case, the English majors scored considerably highly in the test. Ellis' (2005) explanation of the two types of knowledge could be applied here; users feel less pressured when more time is allowed for target language usage. The isolated word test also omits any need and possible challenge in having to produce the *–ed* allomorph forms themselves.

Another finding of this study is the correlation between implicit and explicit types of linguistic knowledge and the pronunciation of *–ed* allomorphs. Although it is observed that the correlation is stronger between implicit knowledge and *–ed* allomorph pronunciation than the latter and explicit knowledge, it can be generally inferred in both cases that when the users have poor grasp of the knowledge, they also performed rather poorly in the use of the inflected forms. This could indicate the need to incorporate the teaching of the two types of knowledge to ESL learners and that increasing implicit and explicit knowledge of past time allomorphs may help increase effective usage. This could be successful in the English language learning of young adults, like the participants of this study, who as suggested by Brown (2014) may be more cognitively ready for analytical endeavours than younger learners.

The study has confirmed that the challenges faced by ESL speakers could be caused by cross-linguistic differences (Odlin, 2003) between Malay and English and that there is a need to make the forms salient to users for them to be noticed. The ESL users including English majors have the tendency to use default verb forms and leave out the inflections and this could be caused by the cross-linguistic difficulties or specifically, the absence of past tense markers in Malay. This study also provides evidence of one of the pronunciation features of Malaysian English.

The Perceptual Salience Hypothesis (Klein et al., 2003) does apply to the Malay speakers of English. Thus, this study supports the hypothesis, that improving saliency may assist ESL learners to acquire the forms more effectively (Dwight, 2012).

CONCLUSION

This paper is concerned with the English language *–ed* allomorphs [d], [t] and [ɪd]/[əd], Malay ESL users' implicit and explicit knowledge of the allomorphs, their usage of the forms in their speech and the relationship between the two types of knowledge and that usage. Four instruments were used to collect data from fifty university students who were Social Science and English majors.

Students have some implicit knowledge of the allomorphs while their explicit knowledge is more limited. In terms of approximation to Standard English, the Malay users tended to pronounce forms preceded by [t] and [d] as /əd/, i.e. with a schwa. It is also generally observed that the allomorph /d/ was utilised regardless whether *–ed* has voiceless, vowel or voiced preceding sounds. Furthermore, the participants consistently dropped the *–ed* allomorphs where required. The Perceptual Salience Hypothesis (Klein et al., 2003) is supported in this study although when they did pronounce the *–ed* that follows [t] and [d], the variant of /ɪd/ which is /əd/ was favoured, and unlike proposed by the hypothesis, the Malaysian speakers of English pronounced /d/ rather consistently. The differences may be caused by cross-linguistic influence (Odlin, 2003). Therefore, the study indicates that the correlation between implicit knowledge and *–ed* allomorph pronunciation is stronger compared to the latter and explicit knowledge.

The findings of this study can help institutional decision-makers in determining course syllabus and pedagogical materials as acquiring closer approximations to Standard English can improve both effective communication and employability. This allomorphic investigation can be further explored by performing a thorough textual analysis on the collected data. Other research extensions could include comparative explorations of linguistic knowledge and the production of *–ed* allomorphs between native and numerous groups of non-native speakers. Explorations that would further unravel the acquisition of other morphological forms, both inflectional and derivational, could add valuable theoretical and practical knowledge of the English forms and the process of morphological acquisition.

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